A. M. SMITH.

Station-Indicator.

No. 163,031. Patented May 11, 1875.

Fig. 3.

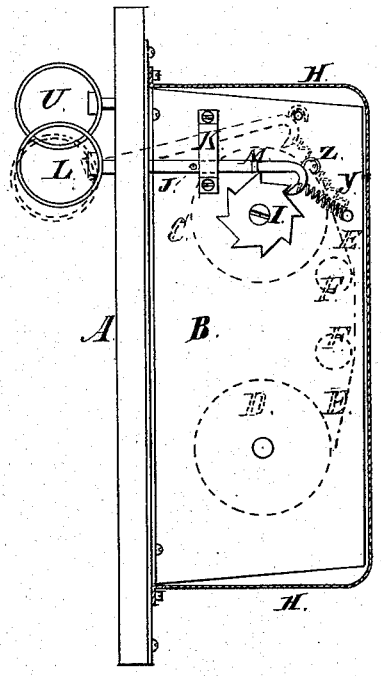


Fig. 1.

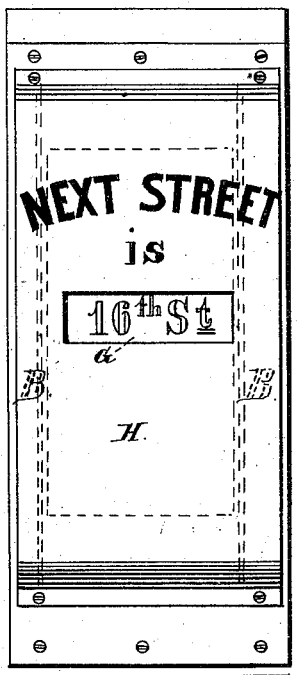


Fig. 2.

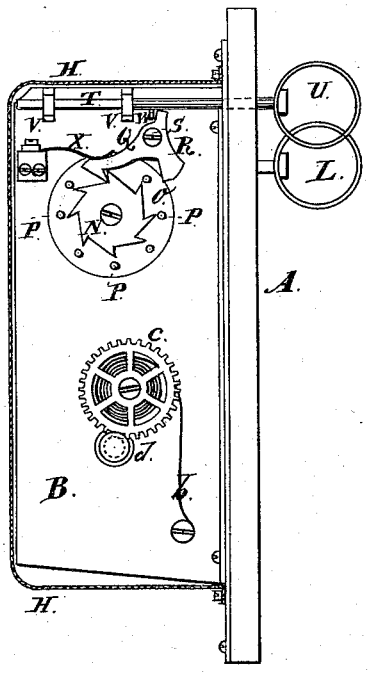


Fig. 4.

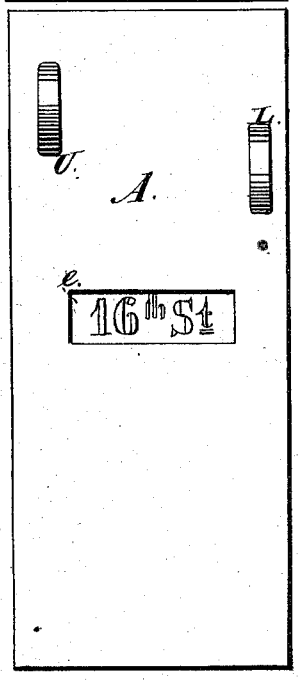
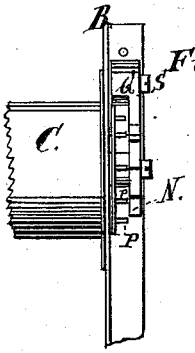


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

AMOS M. SMITH, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN STATION-INDICATORS.

Specification forming part of Letters Patent No. **163,031**, dated May 11, 1875; application filed January 23, 1875.

To all whom it may concern:

Be it known that I, AMOS M. SMITH, of the city of Chicago, in the county of Cook and State of Illinois, have invented a Street-Indicator, of which the following is a specification:

The object of my invention is to make a small compact apparatus which can be readily operated by the driver or conductor, so as to show the name of the streets consecutively when used in stages or street-cars, or the name of the stations if used in railway-cars.

The nature of my invention consists of a ribbon on which the names of the streets or stations are printed, which is wound upon two rolls, which are turned in one direction by means of a ratchet-wheel, so as to wind the ribbon from one roll to the other to show the streets consecutively in one direction, and turned in the opposite direction by a coil-spring to show the streets consecutively in the reverse direction or order, and the special mechanisms connected therewith, by which the apparatus is operated and the names of the streets and stations exhibited, as hereinafter fully described.

In the annexed drawings, Figure 1 represents a front elevation of my indicator, the long dotted lines indicating the side plates which carry the rollers and the mechanisms which operate them, and the inner dotted lines indicate the front of the ribbon. Fig. 2 represents the view of one side plate with the case cut in sections. Fig. 3 represents the same view of the opposite side; Fig. 4, a rear view, showing the operator the name of the station or street exhibited; and Fig. 5 represents a detached view of a piece of the end of one of the rollers, and a side view of the wheel and ratchet N.

A is a board, to which the side plates B of the indicator are attached. C and D are two rollers having bearings in the plates B, and carrying the ribbon E, on which the names of the streets or stations are printed. F F are two small rollers, over which the ribbon passes to be held parallel with the opening G in the case H of the indicator. I is a ratchet-wheel attached to the shaft of the roller C, and J is a pawl or dog, which slides in the loop K, and also passes through the board A, and is provided with a ring or handle, L, by which it is operated. M is a stop on the pawl, by which its stroke is limited, so as to always turn the roller C just a given distance, which is always just the distance that the names of the streets or stations are apart on the ribbon. N is another ratchet-wheel on the opposite end of the roller C, and O is a pin-bearing wheel, carrying the pins P. Q is a pawl, which engages with the ratchet-wheel N; and the arm or projection R of this pawl extends down when the pawl is vibrated on its pivot S, so that one of the pins P strikes against it if the vibration is sufficient to raise the ratchet-hook from the tooth of the wheel N. This makes it impossible for the wheel N to turn more than one notch at each vibration of the ratchet Q. T is a sliding piece, provided with a ring or handle, U, and slides in the hooks V, as well as in a slot in the piece A. This sliding piece T is provided with a projection or lug, W, which vibrates the pawl Q when it is moved. X is a spring for holding the pawl Q down in place, as shown in Fig. 2. Y is a spring, which pulls the pawl J back over the teeth of the ratchet-wheel I, as shown in Fig. 3. Z is a hook on the pawl J, by which the pawl can be held disengaged from the ratchet-wheel I by passing the hook over the pin *a*, as shown by dotted lines in Fig. 3. *b* is a spring, connected to the roller D by means of the cog-wheel *c* engaging with the shaft or spindle *d* of said wheel, so that its force is exerted to turn the roller in the direction to wind the ribbon down upon it. *e* is an opening in the back part of the indicator, through which the person who operates it can see the name of the street or station indicated. The names of the streets may be printed on both sides of the ribbon.

The operation of my indicator is as follows: Suppose the ribbon is wound on the lower roller D, showing the name of the first street to be passed at the opening G; when that street is passed the driver pulls the pawl J, and rolls up the ribbon one space on the roller C, showing the name of the next street at the opening. The pivoted pawl Q holds the roller C from turning back as the operator lets go of the pawl J, and allows the spring X to pull it

back over the next tooth of the ratchet-wheel I. When the next street is passed, the driver repeats the operation, and brings the next street in view, and so on to the end of the trip. To make the return trip, the driver first hangs up the pawl J on its pin, as shown by dotted lines in Fig. 3. When the first street on the return trip is passed, and it is desired to exhibit the name of the next street, the driver pulls the sliding piece T, which vibrates the pawl Q, raising it above the teeth of the ratchet-wheel N, when the force of the spring *b*, pulling down on the ribbon, turns the rollers, but they are arrested by one of the pins P striking against the arm R of the pawl Q. As soon as the driver releases his hold of the sliding piece the spring X carries the pawl Q down, so that it engages with the next tooth of the ratchet-wheel N. By these means the ribbon is wound back upon the lower roller just one space at each vibration of the pivoted pawl Q, and the names of the streets are exhibited at the opening G in their reversed order from what they were shown when the ribbon was being rolled upon roller C.

I claim—

1. The combination of the pivoted pawl Q, provided with the projecting arm R, ratchet-wheel N, pins P, and the sliding piece T, as and for the purpose specified.

2. The combination of the pivoted pawl Q, provided with a projecting arm, R, the ratchet-wheels N and 1, the roller C, the pawl J, constructed so as to be removed from the ratchet-wheel when the pawl Q is operated, and the spring *b*, for drawing the ribbon from the roller C to reverse the indicator, all substantially as described.

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Witnesses:

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